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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/220,970 12/23/98 MILLS

R 9213-4

EXAMINER

LM31/0903

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ART UNIT

PAPER NUMBER

2721

DATE MAILED:

09/03/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks.

# Office Action Summary

Application No.  
**09/220,970**

Applicant(s)  
**Randell L. Mills**

Examiner  
**Kanji Patel**

Group Art Unit  
**2721**



☐ Responsive to communication(s) filed on \_\_\_\_\_

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire THREE month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-50 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-50 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Drawings*

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-50 are rejected because the claimed invention is directed to non-statutory subject matter.

General remark: The claimed invention is a computer related invention. The Computer-Implemented Invention Guidelines issued by the U.S. Patent and Trademark Office describe the procedures for examining such inventions.

Method claims 1-43 and 45: The claimed invention is for pattern recognition based on processing information where the information comprises of data representative of physical characteristics or representations of physical characteristics within an input context of the characteristics. Claim 1 recites a method claim wherein the limitations are defined as a series of mathematical steps to be performed by a computer e.g. encoding the data as parameters.....,

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adding the Fourier components....., sampling....., modulating the sampled....., determining the spectral similarity....., determining a probability....., generating a probability....., repeating steps....., adding the modulated..... recording the string..... (claim 1).

A series of steps implemented on a computer may be statutory if it falls within one of the two safe harbors under the Guidelines. The claimed invention would be statutory if it performed independent physical acts such as post-computer process activity. The claimed invention would also be statutory if it had pre-computer process activity, such as manipulation of data representing physical objects. However, the claimed invention does neither of these things. The claims, therefore, are not statutory under these safe harbors.

The claims are further analyzed for any practical application performed by the claimed invention. Steps (a) to (j) of method claim 1 represents a sequence of a mathematical algorithm which solve a mathematical problem to form a string of Fourier series in Fourier space. The claimed invention does not produce a "useful, concrete and tangible" result. For example, the claimed invention fails to achieve the objective of pattern recognition and processing of information as announced in the preamble.

Thus, claims 1-43 and 45 merely recite to steps of a mathematical algorithm without any practical application.

When the claims are taken as a whole, the claims are directed to the preemption of a mathematical algorithm. Therefore, claims 1-43 and 45 are unpatentable under 35 USC § 101 because they

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merely manipulate an abstract idea and solves a purely mathematical problem without any limitation to a practical application.

The claimed invention thus solves a purely mathematical problem without any limitation to a practical application and therefore analyzed as non-statutory subject matter.

claims 44 and 46-50 are computer readable medium or machine or apparatus claims. The apparatus claimed herein is not a specific apparatus or machine since there is no specific structure of an apparatus or a machine recited in these claims. The elements of the “apparatus” are defined entirely by functional language, which can be implemented by either hardware or software code. Therefore, they are analyzed as a series of steps encompassing the underlying process to be performed on a computer as discussed in the method claims 1-43 and 45 above. Claims 44 and 46-50 are, therefore analyzed as non-statutory under 35 USC § 101.

In summary, claims 1-50 recite a non-statutory process without a practical application and therefore are rejected under 35 USC § 101.

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**Prior art cited**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zimmerman et al. (US 5,459,680) discloses a method and apparatus for spur-reduced digital sinusoid synthesis.

Melamed et al. (US 5,257,364) discloses a method for generating a correlated sequence of variates with desired marginal distribution for testing a model of a communications system.

Barrett (US 5,486,833) discloses an active signaling systems.

Chou et al. (US 5,579,436) discloses a recognition unit model training based on competing word and word string models.

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**Contact information**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kanji Patel whose telephone number is (703) 305-4011. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached on (703) 305-4706.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305- 3900.

The fax number for this group is (703) 306-5487.



Kanji Patel  
Patent Examiner  
Group Art Unit 2721  
August 24, 1999.



CHRISTOPHER S. KELLEY  
PRIMARY EXAMINER